

Patent
2303-1-015N

AMENDMENTS TO THE CLAIMS

Claims 1-25 (Canceled).

26. (Currently Amended) A plastic sheet product having a ~~non-porous~~ matte finish and improved abrasion resistance and weathering comprising a core layer of a first thermoplastic polymer and at least one layer of a capstock composition overlying and bonded to at least one face of the core layer, said capstock composition comprising a second thermoplastic polymer and containing a plurality of discrete particles immiscible with, and dispersed in, the second thermoplastic polymer, the discrete particles ~~being of a hard, non-elastomeric crosslinked polymeric composition and~~ having a diameter between 20 and 80 microns, and being dispersed in the second thermoplastic polymer in an amount of about 12 to about 30% by weight, and said capstock composition having a thickness of from 100 to 400 microns.

27. (Currently Amended) A plastic sheet product having a ~~non-porous~~ matte finish and improved abrasion resistance and weathering comprising a core layer of a first thermoplastic polymer and two layers of a capstock composition overlying and bonded to both top and bottom faces of the core layer, said capstock composition comprising a second thermoplastic polymer and containing a plurality of discrete particles immiscible with, and dispersed in, the second thermoplastic polymer, the discrete particles ~~being of a hard, non-elastomeric crosslinked polymeric composition and~~ having a diameter between 20 and 80 microns, and being dispersed in the second thermoplastic polymer in an amount of about 12 to about 30% by weight, and said capstock composition having a thickness of from 100 to 400 microns.

28. (Previously presented) The plastic sheet product of claim 26 wherein the first thermoplastic polymer and the second thermoplastic polymer are independently selected from the group

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consisting of polyethylenes, polypropylenes, ethylene-propylene copolymers, ethylene vinyl acetate copolymers, ethylene methacrylate copolymers, ethylene-ethacrylate copolymers, ethylene-methylmethacrylate copolymers, ethylene vinyl acetate methylmethacrylate copolymers, polyvinyl chloride, acrylonitrile-styrene copolymers, polystyrenes, styrene methylmethacrylate copolymers, polyethylene acrylates, polymethylmethacrylates, methylmethacrylate copolymers, polyethylene terephthalates, polyamides, polycarbonates, polyurethanes, and silicone resins.

29. (Previously presented) The plastic sheet product of claim 26 wherein the capstock composition is bonded to only one face of the core.

30. (Canceled)

31. (Currently Amended) The plastic sheet products of claim 26 wherein the first and second thermoplastic polymers comprise a methylmethacrylate copolymer.

32. (Currently Amended) The plastic sheet product of claim 26 wherein the core layer has a thickness of 1.5 to 13mm and where the capstock layer has a thickness of 100 to 400 microns.

33. (Canceled)

34. (Previously presented) The plastic sheet product of claim 26 wherein the particles are dispersed in the second thermoplastic polymer in an amount of 22 to 26% by weight.

35. (Previously presented) The plastic sheet product of claim 26 wherein the particles are comprised of spherical, crosslinked, polymeric beads 20-80 microns in diameter.

36. (Previously presented) The plastic sheet product of claim 26 wherein the first thermoplastic

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polymer and the second thermoplastic polymer are transparent.

37. (Previously presented) The plastic sheet product of claim 26 wherein the second thermoplastic polymer is the same as the first thermoplastic polymer.

38. (Previously presented) The plastic sheet product of claim 37 wherein the first and the second thermoplastic polymer comprise a copolymer of methyl methacrylate and methyl acrylate.

39. (Currently Amended) The plastic sheet product of claim 29 38 wherein the copolymer comprises about 80 to about 98 wt.% methyl methacrylate and from about 2 to about 20 wt.% methyl acrylate.

40. (Currently Amended) The plastic sheet product of claim 5 39 wherein the copolymer comprises 93% to 97% by weight methyl methacrylate and 3% to 7% by weight methyl acrylate.

41. (Previously presented) The plastic sheet product of claim 26 wherein the first and second thermoplastic polymers have weight average molecular weights in the range of 125,000 to 150,000.

42. (Currently Amended) The plastic sheet product of claim ~~26~~ 27 wherein the core layer has a thickness of about 2 to about 13mm ~~and said at least one capstock layer has a thickness of about 10 to about 400 microns.~~

43. (Previously presented) The plastic sheet product of claim ~~37~~ 26 wherein the core layer has a thickness of about 4 to 10 mm ~~and said at least one capstock layer has a thickness of about 10 to about 400 microns.~~

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44. (Canceled)
45. (Previously presented) The plastic sheet product of claim ~~39~~ 26 wherein the particles have particle size diameters in the range of 30 to 50 microns.
46. (Canceled)
47. (Previously presented) The plastic sheet product of claim ~~41~~ 27 wherein the particles are dispersed in the second thermoplastic polymer in an amount of about 22 to about 26% by weight.
48. (Previously presented) The plastic sheet product of claim 26 wherein the refractive indices of the particles and the second thermoplastic polymer are in the range of about 1:40 to about 1:65.
49. (Previously presented) The plastic sheet product of claim ~~43~~ 48 wherein the refractive indices of the particles and the second thermoplastic polymer are in the range of about 1.49 to about 1.55.
50. (Previously presented) The plastic sheet product of claim 26 wherein the refractive index of the particles differs from the refractive index of the second thermoplastic polymer by a value in the range of about 0.001 to about 0.030.
51. (Currently Amended) The plastic sheet product of claim ~~49~~ 50 wherein the refractive index of the particles differs from the refractive index of the second thermoplastic polymer by a value in the range of 0.005 to 0.020.
52. (Canceled)

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53. (Previously presented) The plastic sheet product of claim 52 wherein the particles are comprised of a polymer selected from the group consisting of crosslinked polymethylmethacrylate, crosslinked polymethylmethacrylate modified with an acrylate or methacrylate monomer, crosslinked copolymers of methylmethacrylate and styrene, silicone resins, and polyallyl methacrylates.

54. (Canceled)

55. (Previously presented) The plastic sheet product of claim 26 wherein the plastic sheet is formed by feedblock coextrusion of the core layer and the capstock composition.

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